

CIS 175 – Introduction to Networking

Course Description

This course introduces students to the basic concepts networks. It covers basic topologies, protocols, performance issues, and software for LANS/WANS. The course assumes student has basic computer knowledge.

Instructional Materials

Dean, T. (2010). *CIS175: Network+ guide to networks: 2009 custom edition* (5th ed.). Boston: Course Technology, Cengage Learning.

Course Learning Outcomes

1. Explain the basic components and media of network systems and distinguish between LANs, MANs, and WANs.
2. Describe and differentiate the different layers of the Open Systems Interconnection (OSI) model.
3. Summarize current networking standards and how standards bodies and the standardization process impact networking technology.
4. Explain the OSI and Internet models as they apply to contemporary communication protocols.
5. Contrast why different technologies are deployed in different contexts of networking, such as topology, bandwidth, distance, and number of users.
6. Describe the TCP/IP protocols and various functions among the application layer.
7. Analyze and compare the characteristics of various communication protocols and how they provide application requirements.
8. Explain the relationship of bandwidth and latency and how they impact throughput in a data communications channel.
9. Explain and differentiate among network hardware devices and components.
10. Use operating system commands to monitor and control IP configurations.
11. Compare and contrast among network operating systems.
12. Configure and install new user accounts to the Windows server operating system.
13. Use networking commands and basic troubleshooting operations in TCP/IP networks to demonstrate the ability to identify and solve basic networking problems.
14. Describe VOIP applications and the role of QoS in a networked environment.
15. Describe security policy, practices, encryption techniques, and design considerations in support of business operations in a networked environment.
16. Explain the role of integrity and availability in a networked environment.
17. Deploy a basic Ethernet LAN and compare it to other network topologies.
18. Use technology and information resources to research issues in networking.
19. Write clearly and concisely about introductory networking topics using proper writing mechanics and technical style conventions.